

What is claimed is:

1. A system for use by individual processing devices of a group of networked processing devices, for managing operational failure occurrences in devices of said group, comprising:

an interface processor for maintaining transition information identifying a second processing device for taking over execution of tasks of a first processing device in response to an operational failure of said first processing device and for updating said transition information in response to a change in transition information occurring in another processing device of said group;

an operation detector for detecting an operational failure of said first processing device; and

a failure controller for initiating execution, by said second processing device, of tasks designated to be performed by said first processing device in response to detection of an operational failure of said first processing device.

2. A system according to claim 1, wherein

each individual processing device of said group of networked processing devices incorporates a repository storing transition information, and

said individual processing devices are in communication to maintain consistent transition information in said individual processing devices.

3. A system according to claim 1, wherein

said transition information comprises a prioritized list of processing devices for assuming execution of tasks of a first processing device in response to an operational failure of said first processing device and

said prioritized list is dynamically updated in response to communication from another processing device of said group

4. A system according to claim 3, wherein

said prioritized list indicates passive non-operational processing devices for assuming execution of tasks of a first processing device in response to an operational failure of said first processing device.

5. A system according to claim 3, wherein

said prioritized list is dynamically updated in response to a plurality of factors including at least one of, (a) detection of an operational failure of another processing device in said group and (b) detection of available memory of another processing device of said group being below a predetermined threshold.

6. A system according to claim 5, wherein

said plurality of factors including at least one of, (a) detection of operational load of another processing device in said group exceeding a predetermined threshold, (b) detection of use of CPU (Central Processing Unit) resources of another processing device of said group exceeding a predetermined threshold and (c) detection of a number of I/O (input – output) operations, in a predetermined time period, of another processing device of said group exceeding a predetermined threshold.

7. A system according to claim 3, wherein

said prioritized list is dynamically updated in to state information indicating at least one of, (a) a detected change of state of another processing device of said group from available to unavailable and (b) a detected change of state of another processing device of said group from unavailable to available.

8. A system according to claim 7, including

said interface processor determines a state of a processing device of said group from state information provided by a different processing device of said group.

9. A system according to claim 1, including

said interface processor interrogates other processing devices of said group to identify a change in transition information occurring in another processing device of said group.

10. A system according to claim 1, wherein

an operational failure of a processing device comprises at least one of, (a) a software execution failure and (b) a hardware failure.

11. A system according to claim 1, wherein  
a processing device comprises at least one of, (a) server, (b) a computer, (c) a PC, (d) a PDA, (e) a telephone, (f) a processing device communicating via wireless communication, (g) a television, (h) a set top box and (i) a networking device, including executable software.

12. A system according to claim 1, wherein  
an individual processing device of said group incorporates similar software to other processing devices of said group.

13. A system according to claim 1, wherein  
said group comprises a cluster and a processing device comprises a node.

14. A system for use by individual processing devices of a group of networked processing devices, for managing operational failure occurrences in devices of said group, comprising:

an individual processing device including,

a repository including transition information identifying a second processing device for taking over execution of tasks designated to be performed by a first processing device in response to an operational failure of said first processing device;

an interface processor for maintaining and updating said transition information in response to a change in transition information occurring in another processing device of said group;

an operation detector for detecting an operational failure of said first processing device; and

a failure controller for initiating execution, by said second processing device, of tasks designated to be performed by said first processing device in response to detection of an operational failure of said first processing device.

15. A system according to claim 14, wherein  
said interface processor communicates with other processing devices of said group to maintain consistent transition information in said individual processing device transition information repositories.

16. A system for use by individual processing devices of a group of networked processing devices, for managing operational failure occurrences in devices of said group, comprising:

an individual processing device including,

a repository including transition information identifying a second currently non-operational processing device for taking over execution of tasks designated to be performed by a first processing device in response to an operational failure of said first processing device;

an interface processor for maintaining and updating said transition information in response to at least one of, (a) detection of an operational failure of another processing device in said group and (b) detection of available memory of another processing device of said group being below a predetermined threshold;

an operation detector for detecting an operational failure of said first processing device; and

a failure controller for initiating execution, by said second processing device, of tasks designated to be performed by said first processing device in response to detection of an operational failure of said first processing device.

17. A system according to claim 16, wherein

said transition information comprises a prioritized list of processing devices for assuming execution of tasks designated to be performed by said first processing device in response to an operational failure of said first processing device and

said prioritized list is dynamically updated in response to communication from another processing device of said group

18. A method for use by individual processing devices of a group of networked processing devices, for managing operational failure occurrences in devices of said group, comprising the activities of:

- maintaining transition information identifying a second processing device for taking over execution of tasks of a first processing device in response to an operational failure of said first processing device and for updating said transition information in response to a change in transition information occurring in another processing device of said group;

- detecting an operational failure of said first processing device; and

- initiating execution, by said second processing device, of tasks designated to be performed by said first processing device in response to detection of an operational failure of said first processing device.

19. A method for use by individual processing devices of a group of networked processing devices, for managing operational failure occurrences in devices of said group, comprising the activities of:

- storing transition information identifying a second processing device for taking over execution of tasks designated to be performed by a first processing device in response to an operational failure of said first processing device;

- maintaining and updating said transition information in response to a change in transition information occurring in another processing device of said group;

- detecting an operational failure of said first processing device; and

- initiating execution, by said second processing device, of tasks designated to be performed by said first processing device in response to detection of an operational failure of said first processing device.

20. A method for use by individual processing devices of a group of networked processing devices, for managing operational failure occurrences in devices of said group, comprising the activities of:

- maintaining transition information identifying a second currently non-operational processing device for taking over execution of tasks designated to be performed by a first processing device in response to an operational failure of said first processing device;

- updating said transition information in response to at least one of, (a) detection of an operational failure of another processing device in said group and (b) detection of available memory of another processing device of said group being below a predetermined threshold;

- detecting an operational failure of said first processing device; and

- initiating execution, by said second processing device, of tasks designated to be performed by said first processing device in response to detection of an operational failure of said first processing device.